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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,006	04/12/2005	Satoshi Tanaka	2005_0626A	3102
513 7590 02/24/2009 WENDEROTH, LIND & PONACK, L.L.P. 1030 15th Street, N.W., Suite 400 East Washington, DC 20005-1503				
EXAMINER				
GRUN, ROBERT J				
ART UNIT		PAPER NUMBER		
1791				
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02/24/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/531,006

Applicant(s)

TANAKA ET AL.

Examiner

ROBERT J. GRUN

Art Unit

1791

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11, 24, 25 and 36-38 is/are pending in the application.
- 4a) Of the above claim(s) 25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 24 and 36-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The amendments to the specification and abstract dated December 16, 2008 have been received and entered.

Response to Amendment

2. The amendment to the claims filed on December 16, 2008 under 37 CFR 1.131 has been considered but is ineffective to overcome the Sulzbach (US Patent 5,834,527) reference.

Claim Rejections - 35 USC § 112

3. Claims 1-11, 24, and 36-38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims and specification do not define adequately the parameters of the variable n, (i.e. can n be negative, fractional, very large, very small, etc.).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-11 and 36-38 are rejected under 35 U.S.C. 102(a) as being anticipated by Sulzbach (US Patent No. 5,834,527).

- Regarding Claims 1-11: Claim 1 has been amended to include the following limitations: "wherein the pressurization is maintained until an injected volume of the foamable material equaling the cavity volume multiplied by $1/n$ is injected into the mold to obtain a shaped foam having an expansion ratio of about $n:1$;" As presented in the previous rejection, Sulzbach teaches a process and apparatus for the manufacture of foam moldings. Said process consists of having a mold cavity with two halves (2,3) which are sealed (4) gas-tight (hermetically sealed). The mold is pressurized with inherently predetermined gas via gas line (5) to a gas pressure of 6 bar (6.12 Kg/cm^2) (predetermined level determined by pressure gauge (P)). The foamable material is then injected into the mold via mixer (6). The pressure in the mold is then slowly released (controlled by piston valves(11)) to the outside (breaking the hermetically sealed state) via gas line (5), which allows the foaming rate to be controlled and causes the foam to fill the mold from the bottom of the mold where the injection means is located to the top of the mold where the gas line is located. The halves of the mold are then separated, inherently releasing any further pressure, and the molded foam product is removed (figure 1 and col. 3 lines 37-55). Sulzbach further teaches filling the mold with the reactive mixture to 11% ($1/n$ where $n=9$) before releasing the pressure in the mold to allow the reactive mixture to foam; filling the whole of the mold cavity (i.e. expanding at a ratio $\sim n:1$ where $n=9$) (col. 3 lines 45-51).
- Regarding Claims 36 and 37: As described above in the rejection of Claim 1, Sulzbach teaches pressurization of a mold cavity to control foaming of a

polymeric foam (abstract). Wherein the foam is introduced to the pressurized cavity and then the pressure is released (depressurizing) to allow controlled foaming of the polymeric foam (col. 2 lines 48-50). Such controlled release of pressure to allow controlled foaming inherently involves maintaining a pressure in the cavity of the mold.

- Regarding Claim 38: The invention is described by Sulzbach as delineated above in the rejection of Claim 36. Sulzbach further teaches that the pressure may be reduced shortly before the end of the filling process to maintain "uniform pore structure" (col. 2 lines 54-56). Said uniform pore structure inherently describes the release of the gas during filling to maintain the pressure in the cavity because if the pressure was changed the pore structure (bubbles) would, by definition, also change.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaminski et al. (US Patent No. 5,283,924), in view of Sulzbach (US Patent No. 5,834,527), as described in the rejection of claims 1-11 above.

- Regarding Claims 24: Kaminski teaches the foaming of a polymeric foam around a solid core to produce a foam brush used for dental hygiene (abstract).

Sulzbach teaches a method and apparatus for producing a high quality polymeric foam as describe above in the rejection of claims 1-11. One of ordinary skill in the art at the time of invention would have found it obvious to use the method and apparatus in Sulzbach to form the brush in Kaminski, since such are in the same polymeric foam art. The person of ordinary skill at the time of invention would have found it obvious to use the foaming method and apparatus of Sulzbach to form foam around a core in order to provide soft foam brush to tooth cleaning devices.

Response to Arguments

8. Applicant's arguments filed December 16, 2008 have been fully considered but they are not persuasive. As described in the above rejection the amendments to the claims are unable to define the invention beyond that of the teachings of Sulzbach.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT J. GRUN whose telephone number is (571)270-5521. The examiner can normally be reached on Mon-Thur 10-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Philip C. Tucker can be reached on (571)272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ROBERT J GRUN/
Examiner, Art Unit 1791

/Philip C Tucker/
Supervisory Patent Examiner, Art Unit 1791